UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2011/2012

SUBJECT NAME	:	SYSTEM ANALYSIS AND DESIGN
SUBJECT CODE	:	BIT 2013/BIT 20103
PROGRAMME	:	BACHELOR OF INFORMATION TECHNOLOGY
EXAMINATION DATE	:	JANUARY 2012
DURATION	:	2 HOURS AND 30 MINUTES
INSTRUCTION	:	ANSWER **ALL** QUESTIONS.

THIS QUESTION PAPER CONTAINS FIVE (5) PAGES

SECTION A

Instruction: Answer **ALL** questions.

Q1 Give definition for the following terms:

(a) Functional requirements

(b) Non-functional requirements

(c) Sampling

(d) Joint Application Design (JAD)

(8 marks)

Q2 Based on the following scenario below:

"We're a progressive company, always looking to be ahead of the power curve. We'll give anything a whirl if it'll put us ahead of the competition, and that includes every one of us," says Al-Bukhary, an executive with Malayan Manufacturing (2M). You are interviewing him as a preliminary step in a systems project, one in which his subordinates have expressed interest. As you listen to Al-Bukhary, you look around his office to see that most of the information he has stored on shelves can be classified as internal procedures manuals. In addition, you notice a PC on a back table of Al-Bukhary's office. The monitor's screen is covered with dust, and the manuals stacked beside the PC are still encased in their original shrink-wrap. Even though you know that 2M uses an intranet, no cables are visible going to or from Al-Bukhary's PC. You look up behind Al-Bukhary's massive mahogany desk to see on the wall five framed oil portraits of 2M's founders, all clustered around a gold plaque bearing the corporate slogan, which states, "Make sure you're right, then go ahead."

(a) What is STROBE?

(2 marks)

(b) Describe the elements of STROBE that you observed during interview with Al-Bukhary.

(8 marks)

(c) Construct a table with the organizational story line down the left-hand side of the page and the elements of STROBE across the top. Using the symbols from the "anecdotal list" application of STROBE in **Figure Q2**, indicate the relationship between the organizational story line as portrayed by Al-Bukhary and each element you have observed.

A checkmark means the narrative is confirmed.
An "X" means the narrative is reversed.
An oval or eye-shaped symbol serves as a cue to look further.
A square means observation modifies the narrative.
A circle means narrative is supplemented by observation.

Figure Q2

(10 marks)

Q3 (a) What is Data Flow Diagram (DFD)?

(2 marks)

(b) How is DFD related to process modeling?

(4 marks)

(c) Describe **FOUR (4)** elements that are used in DFD.

(4 marks)

(d) Create the DFD level 0 diagram for process payroll based on the context diagram of a payroll system in **Figure Q3** which is including all financial records of salaries, wages, bonuses, and deductions.

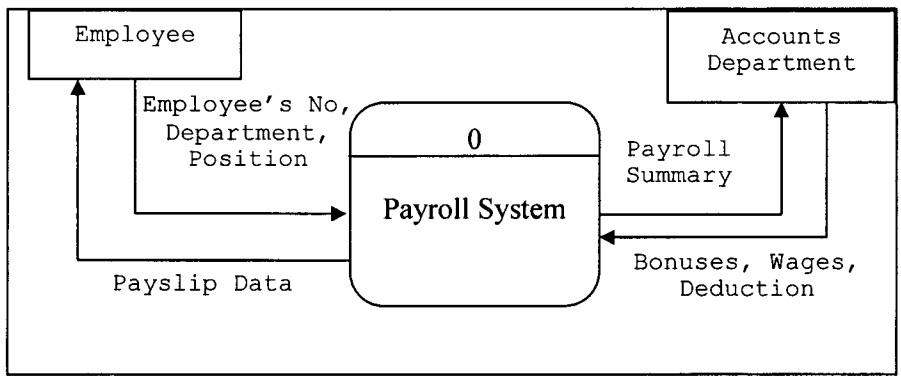

Figure Q3

(12 marks)

Q4 (a) What is an Entity Relationship Diagram (ERD)?

(2 marks)

(b) Draw an ERD for the following situation:

Each student is assigned to a respective advisor to help students on degree requirements and registering them to classes. In the case where their advisors are not available, they may register with any advisor.

You should keep track of students, their assigned advisors and with whom the student registered for the current term.

(8 marks)

SECTION B

Instruction: Answer **ALL** the questions.

Q5 Based on the following scenario below:

UTHM Bank provides car and home loans to its banking customers. Initially, a potential loan customer meets with a UTHM Bank loan officer, requests a loan for a certain amount and time frame, and completes a loan application. Next, the loan officer determines the customer's credit standing, the type of loan required, and available interest rates. While the loan officer can authorize car loans for credit worthy customers, a loan committee must approve all home loans.

(a) Draw a DFD context diagram for the system.

(10 marks)

(b) Draw a logical level 0 DFD.

(10 marks)

(c) Draw a physical level 0 DFD.

(10 marks)

(d) Draw the User Interface Design.

(10 marks)